

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of

JOHN W. SLIWA, *et al.*

Application No.: Unassigned

Filed: Herewith

For: METHODS AND DEVICES
FOR ABLATION

Examiner: Unassigned

Art Unit: Unassigned

PRELIMINARY AMENDMENT

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

Prior to examination, please amend the subject application as indicated below.

IN THE SPECIFICATION:

Please delete the first paragraph and insert the following corrected paragraph:

--The present application is a continuation of U.S. Patent Application 09/884, 435, filed June 19, 2001, which is a continuation-in-part of Application Serial No. 09/614,991, filed July 12, 2000, which is a continuation-in-part of Application Serial No. 09/507,336 filed February 18, 2000 which is a continuation-in-part of Application Serial No. 09/356,476, filed July 19, 1999, which is a continuation-in-part of Application Serial No. 09/157,824, filed September 21, 1998, which is a continuation-in-part of Application Serial No. 08/943,683, filed October 15, 1997, which is a continuation-in-part of Application Serial No. 08/735,036, filed October 22, 1996, the full disclosures of which are incorporated herein by reference.--

IN THE CLAIMS:

Please delete claims 1 through 60 in this application and add the following new claims:

-- 61. A device for ablating tissue, comprising:

a body;

a first ablating element coupled to the body, the first ablating element emitting focused ultrasound energy, the focused ultrasound energy being focused in at least one direction; and

a second ablating element coupled to the body, the second ablating element emitting focused ultrasound energy, the focused ultrasound energy being focused in at least one direction, the second ablating element being different than the first ablating element.

62. The device of claim 61, wherein:

the second ablating element has a different focal length than the first ablating element.

63. A device for ablating cardiac tissue, comprising:

an ablating element which emits focused ultrasound which is focused in at least one dimension.

64. The device of claim 63, further comprising:

a body; and

a plurality of ablating elements.

65. The device of claim 63, wherein:

the focused ultrasound is focused along a focal axis and diverges when viewed perpendicular to the focal axis.

66. The device of claim 63, further comprising:

means for moving a focus of the focused ultrasound relative to the tissue.

67. The device of claim 63, wherein:
the focused ultrasound has a focal length of 2-20 mm.

68. The device of claim 67, wherein:
the focal length is 2 to 12 mm.

69. The device of claim 63, further comprising:
a control system which automatically activates the ablating element for a first period of time at a first frequency and for a second period of time at a second frequency which is different than the first frequency.

70. The device of claim 69, wherein:
the control system activates the ablating element at the first frequency which is lower than the second frequency.

71. The device of claim 69, wherein:
the control system deactivates the ablating element for 5-80 seconds between each of a number of discrete time periods.

72. A system for ablating tissue with ultrasound comprising the steps of:
an ablating device which emits focused ultrasound in at least one dimension; and
a control system operably coupled to the ablating device, the control system activating the ablating device at a frequency and a power to direct the ultrasonic energy into the tissue structure for a period of time, the control system also changing at least one of the frequency, power, period of time and location of the focus relative to the tissue.

73. The system of claim 72, wherein:
the changing step is carried out to accumulate energy closer to a near surface of the tissue as compared to the operating step.

74. The system of claim 72, wherein:
the changing step is carried out with the period of time increasing.

75. The system of claim 72, wherein:
the changing step is carried out with the frequency increasing.

76. The system of claim 72, further comprising:
means for assessing the contact between the ablating device and the tissue
structure.

77. The system of claim 72, further comprising:
means for measuring a tissue thickness using the ultrasonic transducer.

78. The system of claim 72, wherein:
the first transducer has a first focal length and the second transducer has a second
focal length different than the first focal length.

79. The system of claim 72, wherein:
the ablating device has a body, the first and second transducers being slidably
movable along the body.--

CONCLUSION

Claims 61 through 79 are pending in this application.

Attached is a marked-up version of the changes made to the specification by the current amendment. The attached page is captioned with "VERSION WITH MARKINGS TO SHOW CHANGES MADE."

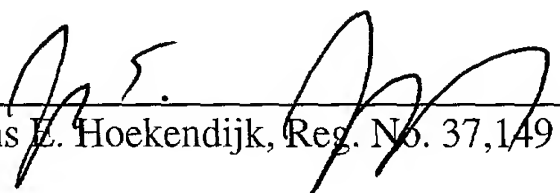
If a telephone interview would expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (415) 412-3322.

Please charge any required fees, including any necessary extension-of-time fees, or credit any overpayment to Deposit Account No. 50-1247.

Respectfully submitted,

Date November 2, 2001

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

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